

# Intersection of Transportation Infrastructure and Displacement

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## Project Summary

Does transportation infrastructure in Boston cause displacement?

- Concern often observed by LivableStreets Alliance in Boston Metro Area
- National data indicates a *correlation* between displacement and train stops, but bike lanes and greenways are not analyzed



## LivableStreets Alliance

- 501(c)(3) nonprofit located in Cambridge, Massachusetts
- **Mission:** Advocate for transportation solutions that are safe, affordable, and enjoyable by dismantling geographical and social barriers that divide communities

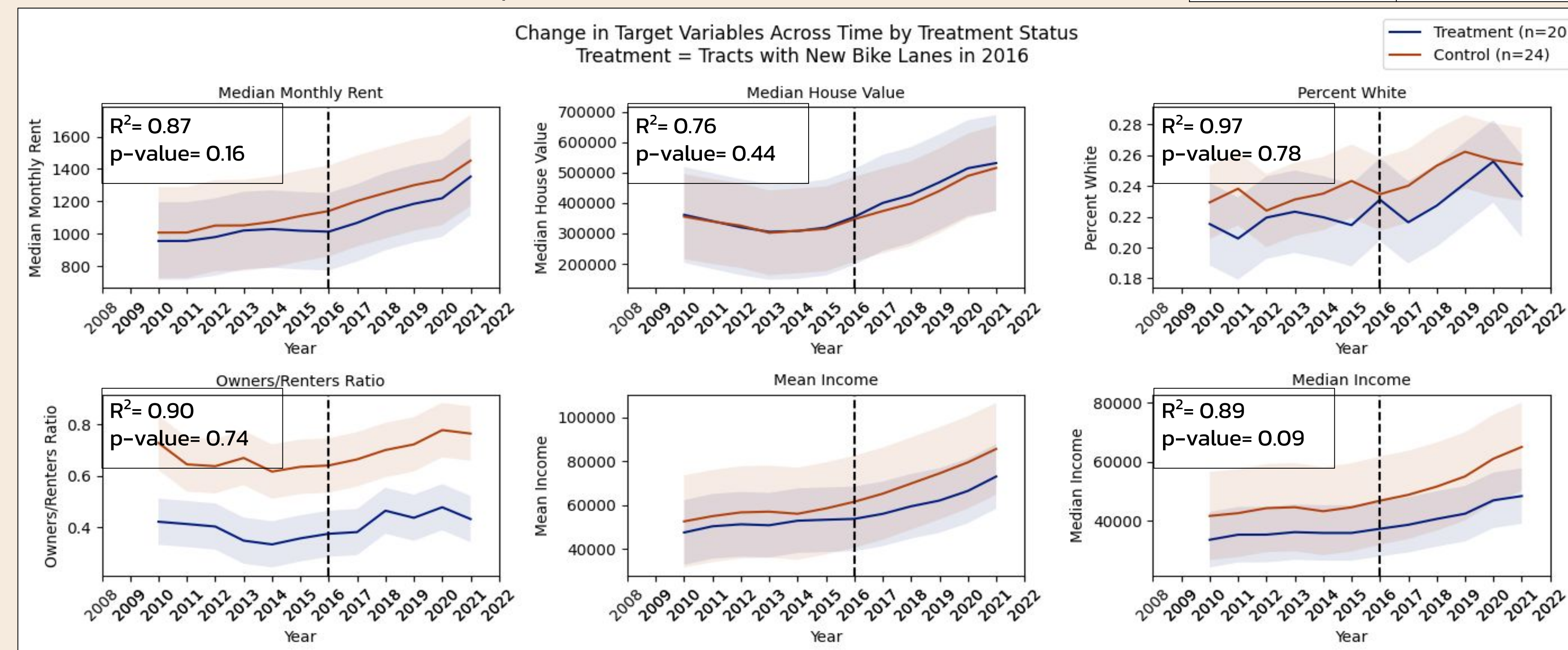
## Special Thanks To:

LivableStreets: Stacy Thompson, Abby Jamiel  
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## Project Results

We conducted correlation analysis (at right) and a difference-in-difference regression analysis (below) to address claims that bike lanes and greenways displace communities' most vulnerable members.

We performed the same analysis on Jamaica Plain's Forest Hills neighborhood following the completion of the Casey Arborway, a greenway which connected the neighborhood to Boston's Emerald Necklace, and found the same result.



## Limitations

- Low statistical power, limited generalizability due to community focus
- Identification of possible non-linear effects
- COVID-19 pandemic and time horizon of this work (2010-2021)

## Key Takeaways

- **We cannot conclude that bike lane infrastructure causes displacement**
- Bike lane development *correlated* with lower income, property value, white resident ratio
- Opposing bike lane development *in these neighborhoods* on the basis of displacement is not based in fact – **LivableStreets should continue its mission**

	New Bike Lanes Length
Median Income	-0.14
% White Population	-0.06
Median Age	-0.11
% Home Owners	-0.06

## Data Collection

### U.S. Census American Community Survey 5-Year Estimates

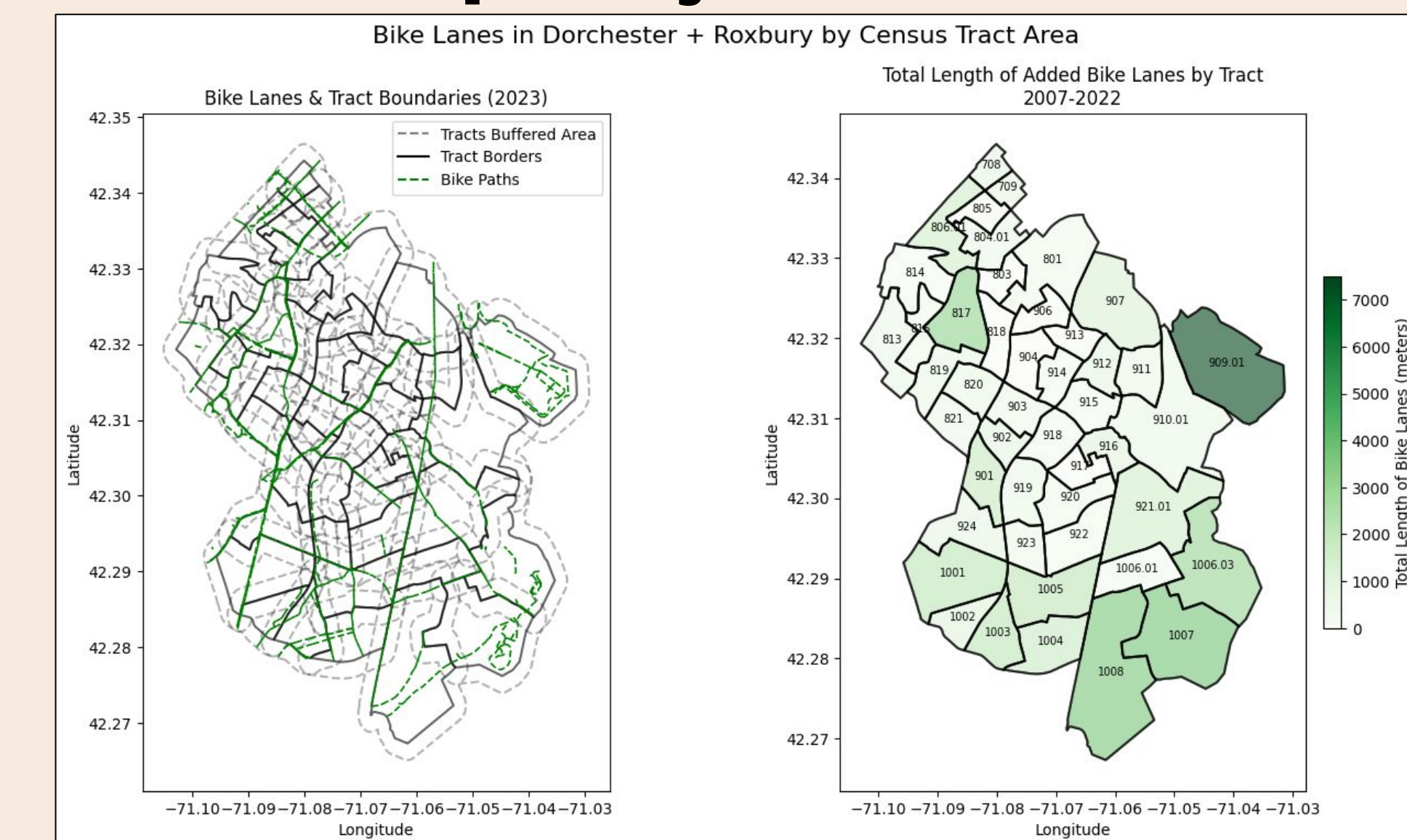
Income: [S1901 - Income in the Past 12 Months \(in 2021 Inflation-Adjusted Dollars\)](#)

Race: [DP05 - ACS Demographic and Housing Estimates](#)

Home Ownership: [B25026 - Total Population in Occupied Housing Units by Tenure by Year Householder Moved into Unit](#)

Property Value: [DP04 - Selected Housing Characteristics](#)

## Boston Maps Project Bike Data



## Communities of Interest

Dorchester (Ashmont), Roxbury, Jamaica Plain (Forest Hills)

## Data Processing

- **Python:** GeoPandas, Plotly, Statsmodels, Pandas, NumPy, Matplotlib
- **Techniques:** Difference-in-difference, linear regression, RegEx, data visualization